

A Product Comparison from Orasi Software

Tableau Prep & Alteryx Designer

When and Why to Use Each



Author:
Charles Coleman
Senior Data Architect

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Introduction

On April 24, 2018, Tableau Software changed its platform considerably when it moved from a perpetual license to a subscription model^[1]. In doing so, the firm not only gave all Tableau Desktop developers the ability to share more of their work through Tableau Server and Tableau Online; it also released a new product: Tableau Prep, which is already proving to be an excellent data manipulation tool. Over this time, Alteryx has been expanding its own reach, and the firm has seen sales grow by 50 percent, year-over-year^[2]. This leaves a growing number of users with access to both tools, begging the question: which tool should we use?

Before we attempt to answer this question, we would be remiss if we didn't discuss the purpose of each solution. Tableau Prep is designed to enable its users to be more self-sufficient by not having to rely on other people or departments for their basic data needs – prepping, cleansing and blending. Much like Tableau's mission statement, "To help people see and understand their data" the intent of Prep is clear and concise. Alteryx has a different objective—to provide increased value across the analytics continuum, starting with data prep and blending and continuing up the ladder through descriptive, spatial, predictive, prescriptive and cognitive analysis.

Now, back to the question at hand. Which tool should we use? Fortunately, one can make the decision by answering a few simple questions that may also help set up the project itself.

- Is this a one-time analysis or an ongoing project?
- Will it require specialized analytics before moving to Tableau, or is this a simpler case?
- How complex will the workflow be, and is it something that you're going to share with others?
- Finally, if everyone building Tableau workbooks is going to have Prep available, should they be using Alteryx in the first place?

The analytics landscape is changing rapidly, and knowing where to go with your data has never been more important. We'll help you break down that decision.



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Product Summaries

Tableau Prep

Tableau has spent years addressing its data input capabilities, and Prep (formerly known as Project Maestro) is their latest, best answer. A fully stand-alone program, it offers functionality that Tableau users have only dreamed of until now: being able to quickly clean, join, pivot and summarize data before pushing it to a Tableau workbook and/or Tableau Server. It is simple and easy to understand at a glance. (See Fig. 1, below.)

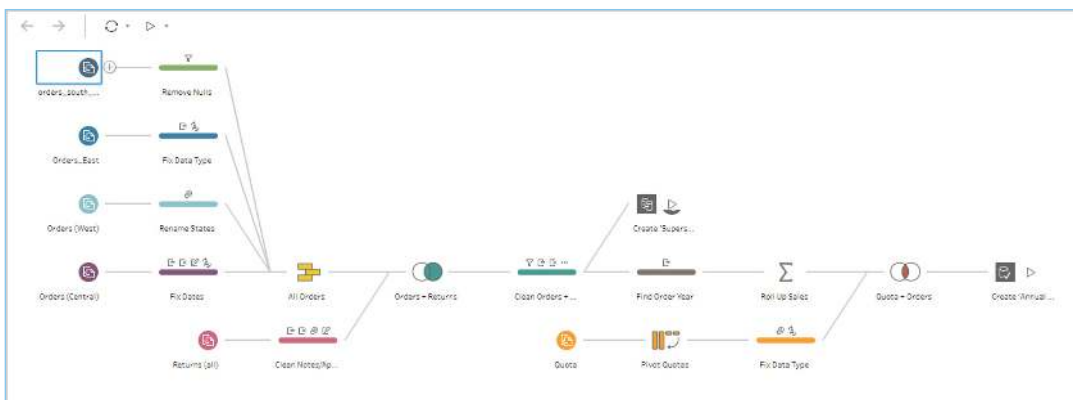


Fig. 1: Tableau Prep in action: pulling in six different data sources and publishing two more to Server

Users can see the impacts of their changes on the screen immediately, through data profiles and samples, before a run even takes place. As an added bonus, the new Tableau Creator license comes with a Tableau Server or Online license. When used in concert, Tableau is putting its full platform within easy reach of any organization seeking to empower users to build and share visualizations while also eliminating data errors. It’s easy to see the potential here: flows running regularly, churning out data, and pushing extracts up to Server or Online and on to your customers.



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As great as the addition of Prep is, however, the new Tableau ecosystem is not quite finished. The most notable missing feature—and something that Tableau Server is known for—is automation. Currently, all Tableau Prep flows must be run manually. While Tableau has stated it is working on automating flows (read [this post](#) by Isaac Kunen, Senior Product Manager at Tableau), we cannot speculate on future development. This said, we all know how far Tableau Desktop has come since its initial release.

Alteryx

Alteryx has continued to add to its already healthy stable of data analysis and extract, transform, and load (ETL) tools over the past few years. Alteryx jumped out to an early lead in the ETL market with its 2006^[3] release (and rapid improvement) of Designer. The software allows users to manipulate and analyze, quickly, data of nearly any size and from disparate sources. It can then write to any of more than 70 different file types—and possibly multiple sources within the same workflow^[4]. Included in those are all of Tableau Prep’s data outputs. (See Fig. 2 below for the same workflow shown in Fig. 1, rebuilt in Alteryx Designer.)

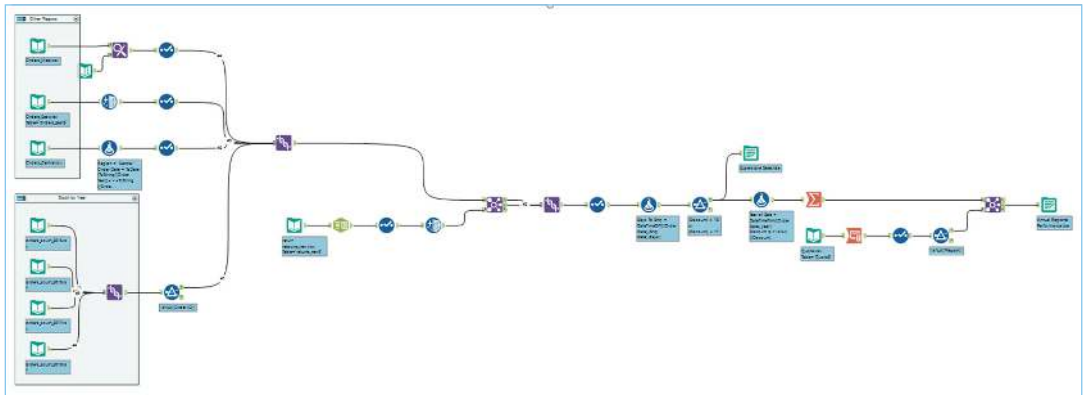


Fig. 2: The Tableau Prep flow from Fig. 1, rebuilt in Alteryx Designer

It is worth noting that while Alteryx can write to Tableau extracts, it cannot read from them. If this is critical, Tableau Prep likely will be the best solution. Also, if the process must run on an Apple computer, unless the user is willing to run on a local, virtual machine in Windows or Linux, Tableau Prep is the answer. For all other factors to be considered, we will compare the use of Alteryx Designer version 2018.1 with Tableau Prep version 2018.2.

“

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”

Feature Comparison

<i>Option</i>	<i>Tableau Prep</i>	<i>Alteryx Designer</i>
<i>Operating Systems</i>	Windows 7+, OSX 10.11+, VM support	Windows 7+, VM support
<i>Supported Data Sources</i>	31 database/server inputs, Excel, .csv, Statistical files, Tableau extracts	20+ database/server inputs, 29 file types, API downloads
<i>Tableau Extract Inputs?</i>	Yes	No
<i>ODBC Support?</i>	Not yet	Yes
<i>Outputs</i>	.csv, .tde, .hyper	20+ database/server inputs, 30+ file types, API uploads, reports in
<i>Output to Input File?</i>	No	Yes
<i>Publish to Tableau Server?</i>	Yes	Yes
<i>Standard ETL Processes?</i>	Filter, join, union, pivot/crosstab, aggregate/summarize, split/parse	Filter, join, union, pivot/crosstab, aggregate/summarize, transpose/unpivot, split/parse
<i>Special ETL Processes?</i>	Join summaries, preview in Tableau Desktop	Multi-row calculations, remove duplicates, text inputs, in-database processing

Download a [free trial of Tableau Prep](#), now!

Factors for Consideration

Factor I: Specific Needs and Operations

The first factor in choosing the right tool is needs and capabilities. Tableau Prep is an excellent tool within its frame of reference. It allows users to get started prepping their data, provided the data follows the import, cleanse, calculate, (possibly pivot), and load method. Alteryx offers more tools for more advanced data prep, cleansing and blending capabilities.

Inputs

As of this writing, Prep can pull from a large assortment of 35 different data sources (see the current list, [here](#)). If users want to connect to data sources not currently supported in this release, like JSON and Salesforce, ODBC connectors, and Web connectors, they would need to use Alteryx.

Outputs

Prep currently publishes to two format types: Tableau extracts (both .tde and .hyper formats) and comma-delimited text (.csv). If the end customer needs a formatted Excel workbook, or the user needs to write the workflow's outputs back into one of its inputs or a database, Alteryx is currently your only option.

Advanced Analytic Capabilities

Tableau Prep is not designed to compete against Alteryx's advanced analytics capabilities. Consequently, attempting to compare the two in this respect is not appropriate other than to highlight where Tableau Prep ends and Alteryx begins, in terms of their use cases.

Other uses for which Prep is not equipped include spatial and predictive analyses, in which Alteryx has specialized for years. If the dataset needs geocoding before it can be mapped in Tableau, it must happen elsewhere. Polygon builds and spatial matches are Alteryx specialties, as well. (Tableau has indicated they may soon have news in this regard.) Be advised that some of Alteryx's advanced analytic capabilities—geocoding and drive time analyses, for example—come with an added cost, as they require additional licenses.



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Similarly, any of the highly technical analyses that you would expect to happen before visualization—market basket analyses, AB tests, time series, and prescriptive analyses—are still better left to Alteryx. Tableau Prep is not meant for that. Prep is a tool best suited to taking today's data, doing some lighter prep work, and then either analyzing it or preparing it for presentation. As such, Prep is also not yet meant to be scaled.

Alteryx allows its users to build apps and macros, which can take a simple workflow and scale it over multiple users, use cases, and exponentially greater data sizes. Need to apply this workflow to thousands of different files or dynamically change the workflow according to parameters that the users complete? How about writing back to the file you're reading from? Those are all Alteryx applications.

On the other hand, if you need to blend the files in front of you right now and push them to a Tableau workbook, then Prep is likely your tool. Interestingly, it does support some variability. It can make use of wildcards^[5], and one user can package a flow (much like a packaged Tableau workbook or Alteryx workflow) and send it to another Tableau user. While it may not yet work seamlessly, it could still save users substantial time if their alternatives are manipulating the data by hand or using Alteryx.

Recommendation: If you need simple data prep, cleansing and blending capabilities within Tableau's ecosystem, choose Tableau Prep. If you need more advanced analytic capabilities with obscure data sources, choose Alteryx.

Factor II: Sharing and Documentation

Along with that scaling, the second major consideration is workflow size and use. Tableau Prep seems intended for smaller, day-to-day operations. It gives users great visibility into the data itself and allows the user to make small changes and pivots very quickly. However, all tools and operations must be configured individually. And, while a flow can output any number of different files, it exists in its own vacuum—flows do not interact with one another.

Contrast that with Alteryx, which seems to crave complex operations. Alteryx allows users to work with snippets of code repeatedly, copying and pasting them around the workflow easily or building them into their own macros and tools for future use (more on this later). Workflows can reference each other, dynamically turn different tools or entire sections on and off, and kickoff other workflows to run in a chain. Alteryx encourages massive workflows with containers, allowing users to organize, comment on, color code, and implement large groups of tools. Yet, it can still shrink them to the size of a paperclip on the canvas.

Tableau Prep may make it simple to share the finished dataset with other Tableau users, but Alteryx makes it simple to share the workflows themselves.

Recommendation: Need it done fast? Turn to Prep. Need to share or grow it? Go Alteryx.

Factor III: Organizational

The final factor in choosing between Prep and Alteryx is organizational. Companies by nature have more people developing workbooks in Tableau Desktop than those building workflows in Alteryx. While the two tools have historically gone hand-in-hand, Prep solves a problem that used to be Alteryx's to answer, alone. Your company may not need or want to devote a license to someone who would otherwise be using only the most basic Alteryx data prep functions and blending workflows. The question then becomes, does this person:

- Currently have the skills in Alteryx to do what he can do in Prep, and
- Already know how to build calculated fields in Tableau?

If he or she is comfortable with Tableau's calculated fields and doesn't know Alteryx, Tableau Prep can make a great substitute.

If the answer to the first question is "not yet," Tableau Prep can also be a great introduction to the world of ETL. Alteryx revolutionized the ETL industry, but in doing so, it built a very large library of tools. The toolset is so large that it can be intimidating for users just getting started.

If the ultimate goal, whether on a per-person basis or an organizational one, is to teach your employees about data and set them up to start developing in Alteryx, then Prep, with its live data views and profiles, can be a good first step.

Recommendation: Building an analytics organization? Prep is a good start. Already have one and looking to move up the analytics continuum? Go Alteryx.



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Conclusion

As quickly as the state of data and analytics is changing, the options for data manipulation are shifting even faster. Tableau, once known only for the power of its visualizations, is finally making a very strong entry into the ETL world with Prep. Does it threaten Alteryx's status as the leader in ETL? That depends on whose viewpoint you accept.

According to Tableau, Prep is a viable alternative to Alteryx, in terms of data prep and blending. Alteryx would likely disagree. The firm reports that only 15 percent of Alteryx outputs feed data visual analytics platforms^[6]. Orasi sees a place for both products.

The bottom line is that Tableau users now have a viable alternative to Alteryx Designer that, after an update to a subscription license, will be freely available for immediate use.

- If teams like having a streamlined platform, have simpler data needs, don't currently know Alteryx, or are developing on a Mac, Tableau Prep is a straightforward solution that is easy to deploy and use.
- If project data requires scheduled refreshes or special connections, spatial or predictive analysis, user modifications, or scale, the organization will likely prefer Alteryx.

Tableau has plenty of room for growth, and its developers have been very public about their investments in R&D and innovation^[7]. Tableau management touts that it spends more in R&D than anyone else in the industry. As such, it is likely that Prep will continue to strive for parity on its connectors and features.

An added takeaway from the aggressive R&D of Tableau and Alteryx is that the pain-points users see as restrictions will likely not be restrictions for long. Tableau and Alteryx have a history of over-delivering on users' expectations; there's no slowing that down now. It's an exciting time to work in analytics, and it's only getting better. Stay tuned.



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